

AMENDMENTS TO THE CLAIMS

The following serves as a complete listing of the claims and replaces all prior claim listings:

Listing of the Claims:

Claim 1. (Currently Amended): An arachidonic acid-containing plant comprising introduced fatty acid synthetase genes associated with the biosynthesis of arachidonic acid, wherein the fatty acid synthetases associated with the biosynthesis of arachidonic acid are ~~a~~ Δ 6 desaturase consisting of the amino acid sequence of SEQ ID NO: 1, ~~a~~ fatty-acid-chain elongase consisting of the amino acid sequence of SEQ ID NO: 3, [[or]] ~~and~~ a Δ 5 desaturase consisting of the amino acid sequence of SEQ ID NO: 5, and wherein the expression of a Δ 15 desaturase is suppressed in the plant.

Claims 2-6. (Canceled).

Claim 7. (Currently Amended): The arachidonic acid-containing plant as set forth in claim 1, wherein the gene encoding the Δ 6 desaturase is ~~one of:~~

(e) ~~a~~ gene having a base has the nucleotide sequence of SEQ ID NO: 2 as an open reading frame; and

(d) ~~a~~ gene that hybridizes under stringent conditions with a gene of a base sequence complementary to a base sequence of a gene identified by SEQ ID NO: 2, and that encodes a protein which catalyzes a reaction of introducing an unsaturated bond at position Δ 6 of an aliphatic monocarboxylic acid.

Claim 8. (Canceled).

Claim 9. (Currently Amended): The arachidonic acid-containing plant as set forth in claim 1, wherein the gene encoding the fatty-acid-chain elongase is ~~one of:~~

(g) a gene having a base has the nucleotide sequence of SEQ ID NO: 4 as an open reading frame; and

(h) a gene that hybridizes under stringent conditions with a gene of a base sequence complementary to a base sequence of a gene identified by SEQ ID NO: 4, and that encodes a protein which catalyzes a reaction of elongating a carbon chain an aliphatic monocarboxylic acid.

Claim 10. (Canceled).

Claim 11. (Currently Amended): The arachidonic acid-containing plant as set forth in claim 1, wherein the gene encoding the Δ5 desaturase ~~is one of~~:

(k) a gene having a base has the nucleotide sequence of SEQ ID NO: 6 as an open reading frame; and

(l) a gene that hybridizes under stringent conditions with a gene of a base sequence complementary to a base sequence of a gene identified by SEQ ID NO: 6, and that encodes a protein which catalyzes a reaction of introducing an unsaturated bond at position Δ5 of an aliphatic monocarboxylic acid.

Claim 12. (Currently Amended): The arachidonic acid-containing plant as set forth in claim 1, wherein the genes encoding the fatty acid synthetases associated with the biosynthesis of arachidonic acid, or the genes encoding the fatty-acid-synthetases are derived from *Mortierella*.

Claim 13. (Currently Amended): The arachidonic acid-containing plant as set forth in claim 1, wherein the genes encoding the fatty acid synthetases associated with the biosynthesis of arachidonic acid, or the genes encoding the fatty-acid-synthetases are derived from *Mortierella alpina*.

Claim 14. (Canceled).

Claim 15. (Previously Presented): The arachidonic acid-containing plant as set forth in claim 1, wherein the expression of the $\Delta 15$ desaturase is suppressed by an RNAi method.

Claim 16. (Previously Presented): The arachidonic acid-containing plant as set forth in claim 1, wherein the plant comprises a plant cell, a plant tissue, a plant callus, a plant seed, a grown plant individual, or offspring of the plant individual that contains arachidonic acid.

Claim 17. (Previously Presented): The arachidonic acid-containing plant as set forth in claim 1, wherein the plant comprises a soybean.

Claims 18-20. (Canceled).

Claim 21. (Currently Amended): An arachidonic acid-containing plant preparation kit for preparing the arachidonic acid-containing plant of claim 1, comprising:

a recombinant expression vector including a promoter and genes encoding fatty-acid synthetases associated with the biosynthesis of arachidonic acid a $\Delta 6$ desaturase consisting of the amino acid sequence of SEQ ID NO: 1, a fatty-acid-chain elongase consisting of the amino acid sequence of SEQ ID NO: 3, and a $\Delta 5$ desaturase consisting of the amino acid sequence of SEQ ID NO: 5.

Claim 22. (Original): The arachidonic acid-containing plant preparation kit as set forth in claim 21, further comprising a set of reagents for introducing the recombinant expression vector into a plant cell.